REMARKS

Applicants appreciate the Examiner's withdrawal of the rejections based on Network Working Group, RFC 1349 by Almquist et al., and for the new citation of U.S. Pat. No. 6,772,333 by Brendel (hereinafter "Brendel") and U.S. Pat. Publication No. 20020019873 by Goldszmidt et al. (hereinafter "Goldszmidt") in the present Office Action. Applicants have carefully examined these references and submit that many recitations of at least the independent claims are not disclosed by the cited references. Accordingly, Applicants request reconsideration and allowance of the pending claims for at least the reasons discussed herein.

Independent Claims 1, 19, and 37 are not Anticipated by Brendel

Independent Claims 1, 19, and 37 stand rejected under 35 U.S.C. §102(e) as being anticipated by Brendel. Independent Claim 1 recites (emphasis added):

> 1. A method of providing improved quality of service over a series of messages exchanged between computers in a networking environment that are related to a transaction, comprising:
> determining one or more transactional quality of service ("TQoS") values to be applied to the related messages;
> using the determined TQoS values when transmitting at least one of the related messages from a server computer to a client computer as a response message related to a request message from the client computer;
> annotating a routing token of the response message with information reflecting the determined TQoS values;
> transmitting the response message with the annotated routing token with the information reflecting the determined TQoS values from the server computer to the client computer;
> receiving the response message transmitted with the annotated routing token-at the client computer; and
> transmitting the TQoS values obtained from the annotated routing token from the client computer to the server computer with subsequent request messages which are each related to the response message from the server.

In rejecting Claim 1, the Office Action contends that Brendel discloses each and every recitation of Claim 1 in the following sections of Brendel: col. 5, lines 27-50 and 45-50; col. 5, lines 45-50; col. 6, lines 9-25; and col. 11, lines 35-45. Applicants respectfully disagree, and submit that Brendel does not disclose at least the above-underlined recitations of Claim 1.

Brendel is directed to a load balancer that distributes client web information requests among many web servers within a "server farm [which] can have hundreds of individual server machines that are connected together by a local network". (Brendel, col. 2, lines 9-17). Brendel illustrates its load balancer 10 and server farm in FIG. 2 below:

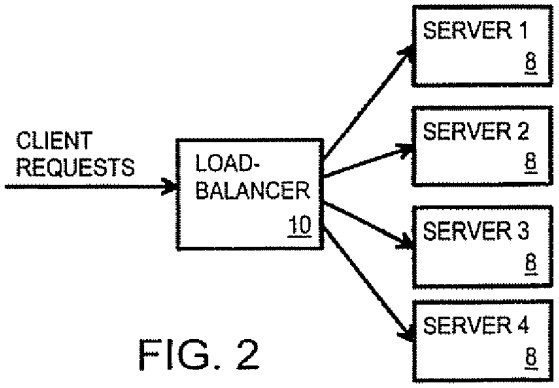


FIG. 2

According to Brendel, "[r]equests from clients are received by an internet connection and sent to load-balancer 10[, which] assigns the request to one of many servers 8." (Brendel, col. 2, lines 19-21). The "assigned server 8 then receives the request and processes it[, and sends its reply] directly back to the client." (Brendel, col. 2, lines 21-24). "The server farm can use a single virtual IP address and thus appears to the outside user to be a single server." (Brendel, col. 2, lines 24-26).

Brendel seeks to address a potential problem when a load balancer attempts to route encrypted client requests to assigned servers in a server farm. Brendel describes that for encrypted client requests, the load balancer needs to use "encryption and decryption algorithms [which] are processor-intensive" and that "many simultaneous connections can [cause the load balancer] to suffer a significant performance degradation, perhaps even becoming unavailable at high load levels." (Brendel, col. 1, lines 27-33). Brendel seeks to avoid these problems by using the load balancer to assign a client to a server in the server farm, generating a server-assignment cookie that identifies the assigned server, and transmitting an "encrypted-session identifier and the server-assignment cookie to the client." (Brendel, col. 6, lines 8-17). "The client stores the server-assignment cookie and ... sends the server-assignment cookie

but not the encrypted-session identifier with each clear-text request to the server farm." (Brendel, col. 6, lines 18-21). The load balancer then uses the server-assignment cookie received with a client request to direct the request to the assigned server without the need to first decrypt the request. (Brendel, col. 11, lines 35-45, col. 6, lines 26-33, and col. 9, lines 37-56).

In other words, Brendel is directed to streamlining routing decisions made by a load balancer using cookies which are transmitted to the client and then are returned by the client with subsequent requests.

Applicants submit that Brendel's routing of client requests within a server farm has nothing to do with determining or using transactional quality of service ("TQoS") values, and submit that Brendel does not disclose at least the above-underlined recitations of Claim 1.

The Office Action contends on page 3 that Col. 2, lines 43-50 of Brendel discloses determining transaction quality of service ("TQoS") values to be applied to related messages. However, the cited portion of Brendel discloses the following:

> Load-balancer 10 can be a hardware or software module. Since load-balancer 10 sits between servers 8 and the user, load-balancer 10 is one kind of middleware that intercepts IP packets. Other kinds of middleware are used for network management such as quality-of-service (QOS) or security. Middleware can only look at the IP packets being sent and does not necessarily know which connections and sessions belong to the same user.

Although Brendel mentions QOS, nowhere does it describe that the load balancer determines the QOS values or, much less, that QOS values would be determined for application to a group of related messages. Applicants submit that neither the cited portion of Brendel nor elsewhere does Brendel describe determining one or more TQoS values to be applied to related requests from a client.

The Office Action further contends on page 3 that Col. 6, lines 9-25 of Brendel disclose using determined TQoS values when transmitting at least one of the related messages from a server computer to a client computer as a response related to a request message from the client computer. However, the cited portion of Brendel discloses the following:

> In further aspects an atomic server-assignment operation generates the server-assignment cookie indicating that the server is assigned to receive requests from a client. The atomic server-assignment operation generates the encrypted-session identifier used by the load-balancer to identify the server. An atomic transmit means receives the server-assignment cookie and the encrypted-session identifier from the atomic server-assignment operation. It transmits the encrypted-session identifier and the server-assignment cookie to the client through the network connection. The client stores the server-assignment cookie and stores the encrypted-session identifier. The client sends the server-assignment cookie but not the encrypted-session identifier with each clear-text request to the server farm. The client sends the encrypted-session identifier with each encrypted-session request to the server farm. Thus the atomic server-assignment operation sets a server assignment for both clear-text requests and encrypted-session requests.

The cited portion of Brendel describes that the load balancer uses server-assignment cookies which are received with client requests to route the requests to pre-assigned servers in the server farm. Applicants submit that neither the cited portion of Brendel nor elsewhere does Brendel describe using determined TQoS values when transmitting at least one of the related messages from a server computer to a client computer as a response related to a request message from the client computer.

The Office Action further contends on page 3 that the same Col. 6, lines 9-25 of Brendel, repeated above, discloses annotating a routing token of the response message with information reflecting the determined TQoS values, and transmitting the response message with the annotated routing token with the information reflecting the determined TQoS values from the server computer to the client computer. However, the cited portion of Brendel describes that the load balancer annotates a response to a client request with a server-assignment cookie that identifies which server within the server farm that client's requests have been assigned. Applicants submit that neither the cited portion of Brendel nor elsewhere does Brendel describe annotating a routing token of the response message with information reflecting the determined TQoS values. Moreover, because Brendel does not describe annotation of a response with TQoS values for related messages, Brendel also cannot describe transmitting a response message with the annotated routing token with the

information reflecting the determined TQoS values from the server computer to the client computer.

The Office Action further contends on page 3 that Col. 11, lines 35-45 of Brendel discloses transmitting the TQoS values obtained from the annotated routing token from the client computer to the server computer with subsequent request messages which are each related to the response message from the server. However, the cited portion of Brendel discloses the following:

> All subsequent clear-text requests from the client to the e-commerce site, such as request 58 for another product-description page, include the cookie with the server assignment. The load-balancer parses request 58 and other packets for such a cookie. The load-balancer reads the server assignment in the cookie and sends request 58 to server 3. Thus all subsequent clear-text request are sent to server 3. The user can browse product web pages and add them to his shopping cart using such clear-text requests. Each request is sent to server 3, so server 3 can keep a local copy of the shopping cart without using a central database.

The cited portion of Brendel describes the load balancer uses the server-assignment cookie, which is received with a client request, to route the client request to the previously assigned server within the server farm. Applicants submit that neither the cited portion of Brendel nor elsewhere does Brendel describe transmitting the TQoS values obtained from the annotated routing token from the client computer to the server computer with subsequent request messages which are each related to the response message from the server.

Because at least the above-underlined recitations of Claim 1 are not described in Brendel, Applicants submit that Brendel does not anticipate Claim 1. Accordingly, Applicants request reconsideration and allowance of Claim 1.

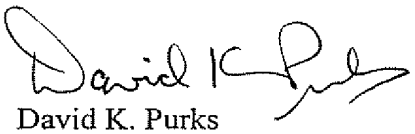
Independent Claims 19 and 37 are directed to a system and a computer program product, respectively, and contain recitations that correspond to the method of Claim 1. Accordingly, Applicants submit that Claims 19 and 37 are not anticipated by Brendel for at least the reasons explained for Claim 1, and request reconsideration and allowance of Claims 19 and 37.

The dependent claims are patentable at least per their dependence from patentable independent Claims 1, 19, and 37.

CONCLUSION

In light of the above amendments and remarks, Applicant respectfully submits that the above-entitled application is now in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,



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